Reply to the letter to the editor

Related to the reply to the letter to the editor about the application form and calculations of voice symptom scale (VoiSS)

Referente à réplica à carta ao editor sobre a forma de aplicação e cálculos do instrumento Escala de Sintomas Vocais (ESV)

Carla Aparecida Cielo[1]
Carla Franco Hoffmann[1]

[1] Universidade Federal de Santa Maria – UFSM – Rio Grande do Sul (RS), Brasil.

Conflict of interest: non-existent

Dear Mrs. Scientific Editor of Magazine CEFAC
Prof. Dr. Simone Aparecida Capellini,

Greeting you and all the colleagues, through this we will hold the clarifications requested by the UNIFESP speech group on some highlighted aspects relating to research article "Vocal symptoms of professional voice future"[1], following the order of the scientific concerns raised in "Letter to the Editor" and thanking you for your contribution.

1. The wording of the inclusion criteria "female or male"[1] (p.35) shows that **both sexes were included** in the study and not just one of them, which consists with other papers that used the same criteria[2-7].

The wording of the inclusion criteria "be coursing college or technical **will require** the use of the **spoken voice** for acting"[1] (p.35) explicit that would be included subjects who use the **spoken voice as a requirement** of their future profession, which included all those **future voice professionals** subject, considering the basic concept and extensive knowledge in the speech therapy that "**the professional voice is the individual who depends on a certain production and or specific vocal quality for the professional survival**[8] (p.288)". The division between voice professionals and not professional voice users, directly or indirectly based on this concept, also occurred in other published works[2,9-13].

Still, at the methods, it is clear who were the future professionals of the spoken voice considered in the study, after applying the inclusion and exclusion criteria: "The future professions of the participants of the study subjects were pedagogy, physical education, special education and social sciences (journalism and marketing)[1] (p.35)", which was also described similarly in other studies[2,14].

1. Exclusion criteria "individuals **in the present or past acted in occupations that required the professional use of voice**"[1] (p.35) reinforces the objective

of the research to assess **future** voice professionals, that is, **subjects in training, inexperienced on professional voice**.

The exclusion criterion "future professionals of the voice sung"[1] (p.35) reinforces the inclusion criteria" to be performing on college or technical that will require the use of the **spoken voice** for action"[1] (p.35).

1. The group of speech colleagues states that "the screening tool was presented inappropriately. The VoiSS[15], in the same way that the original instrument VoiSS[16], is a self-assessment instrument of voice symptoms and the impact of a voice problem, consisting of 30 items, with partial and overall scores obtained by simple summation and not average. In that article[1], the authors incorrectly used the VoiSS[15] as a list of symptoms, the individual may have from zero to 30 voice symptoms, giving a wrong interpretation of the instrument and its calculation method. The VoiSS[15] is not a vocal list of problems, from which is obtained an average value of quantity of vocal problems, expected frequency, positive and negative aspects, as calculated and shown in Tables 1 to 5 of the study. In addition, the VoiSS[15] is a perfect classifier tool, with a cutoff value of 16 points, as previously published in easily access magazines [15,17]. This amount could have been used as a criterion for passes or fails the screening. "

The VoiSS had just published its cultural equivalence for Brazilian Portuguese[18] at the time of closing and approval of our article, which occurred in **mid-2013**, although much later published[1], **but still it was not published its validation and cut-off point**[15]. Thus, contrary to the claims of colleagues, **we applied the VOISS exactly as recommended by the available literature**[16,18], from 30 items, with responses by frequency of occurrence for each item, its partial and total scores obtained by simple addition, and explained in Tables 6, 7 and 8 **and this form of application did not change with subsequent publications**[15,19]. **The means and other types of analysis were used to extend the characterization of groups** and according to additional variables analyzed in the same study as described in the method of our article[1] (p.36).

In this context, considering the use of VoiSS adapted to Brazilian Portuguese and applied and tabulated according to the indications which have remained until now, even with the post-2013 publications[15,19], our

article did not apply the cutoff point published **later** in 2014:

"A cutoff score of 16 was determined to discriminate individuals with dysphonia from the vocally healthy subjects confirming the use of this instrument as a screening measure for individuals with dysphonia and high-risk populations"[15] (p.464). **Without access to a paper published in the future**, we consider that the statistical analysis of the data and their interpretation were carried out in a logical and acceptable way in the absence of other parameters and not consider it as "a wrong interpretation of the instrument" and, yes, viable alternatives interpretation of the data shown in Tables 1-5 of our study[1].

In our article[1], there are: analysis of age and amount of vocal symptoms reported by the future voice professionals, averaging 11.38 problems of a total possibility of 30; frequency of occurrence of symptoms, most often symptoms "you cough or clear your throat" and "you have trouble speaking in noisy places" and statistically significant difference; occurrence of symptoms between the sexes without significant difference between men and women; comparing amount of symptoms with gender, body mass index (BMI) and age group, without significant differences; correlating the amount of symptoms with age and BMI, without significant differences; comparison of the subscales of the VoiSS between men and women, without significant differences; crossing the subscales of VoiSS and age groups, with no significant differences; Comparison of subscales of VoiSS and BMI of individuals, with no significant differences.

The analyzes mentioned above were thoroughly discussed in the literature, as explained in the item "discussion" of our article, lying similarities with other research papers[1] (p.40). Even if the work was completed today, I find some similarities with the findings of Santos et al.[20] on self-perception and vocal quality of journalism students (future voice professionals) and the work of FABRON et al.[21] performed with students of Pedagogy (future professionals of the voice).

It is observed that many studies on **spoken voice** use these types of analyzes, which enables more effective discussion between the results of work[2,3,6,7,11,12,14,19-30].

It should be noted also, the work published using the VOISS in dysphonic patients and presented, for example, its Table 1[19] (p.332) with the same kind of data structure and results of Tables 6, 7 and 8[1] (p.39-40), occurring even in Tables 1, 3, 4 and 5 of validation work of VoiSS[15] (p.460-2), both further studies to ours.

In addition to the balance sheet date and approval of the article[1] be earlier (mid-2013) to the validation of VoiSS[15], on our analyzes about the means and frequency feature (described statistically) of **our sample we didn't make inferences to the entire target population of future professional voice.**

The value obtained with the total mean score of VoiSS of the study group ranged from 43.28 to 55 points (Tables 7 and 8)[1] (p.39-40) and the opinion of the working group is that such an outcome "does not characterize them as future voice professionals, but as a dysphonic group that sought a screening in a campaign share of voice for treatment of a pre-existing condition" .

The group consisted mainly of future professional voice **prior** to data collection and obtaining results through the inclusion and exclusion criteria. It was precisely the found results that showed **that** group of future professional voice had higher scores on VOISS[1](Tabelas 6, 7 e 8, p.39-40), evidencing that **could** be considered at **high risk** for vocal disorder **when initiate their demands as voice professionals**, which is explained in the conclusion[1] (p.41).

Even if we had access in 2013, to the VoiSS valid article published in 2014, the conclusion of the same says: "A cutoff score of 16 was determined to discriminate individuals with dysphonia from the vocally healthy subjects **confirming the use of this instrument as a screening measure for individuals with dysphonia and high-risk populations**"[15] (p.464). This reinforces that our sample could be considered at risk of voice disorders and not necessarily as a group of dysphonic because of their high scores, as the conclusion of our article: **"The group of future voice professionals analyzed** showed high average of vocal symptoms, highlighting the cough or hoarseness and difficulty on speaking in noisy places directly related to incorrect vocal uses. **With the increase of professional vocal demand,** these individual **may be at risk** for the development of voice disorders "[1] (p.41).

Colleagues still place: "It is not clear how many individuals failed to evaluation; However, the occurrence of dysphonia in the general population varies from 3 to 8% and can reach 20% in professional use categories of voice. The article suggests that this percentage is much higher. It should also be considered possible biases in the collection and analysis of data. We still do not know what was done with these subjects, if they were referred for medical and / or clinical assessment. "

In our article does not appear that **any** of the subjects failed on the evaluation. However, as provided in the Free Consent and Informed, there are mandatory criteria such as routing and guidance of the subjects participants (expected benefits), as the objective of the research, which took place in this as in all other work of our own. It is noteworthy that most of the work cited in this document does not provide this information, probably for the same reason that we aimed.

Regarding the literature on the prevalence of dysphonia, values vary according to the assessed region, the target population, sample, data collection instruments, among other variables. Studies about spoken voice show that the prevalence of some degree of dysphonia, assessed or self-reported in individuals who use their voice at work can reach **35,5%**[29], **43,3%**[31], **48%**[7], **50%**[22,32], **70%**[33,34], **80,7%**[35], **85%**[26] e até **97,2%**[36], among others, a **percentage higher than the 20%** mentioned by colleagues.

Brazilian studies on the occurrence of dysphonia in the general population suggest **variation higher than the 3-8%** mentioned by colleagues. "From a total of 963 medical records present in the speech therapy outpatient file at Hospital of the Federal University of Minas Gerais, representing 336 individuals with complaints and / or voice disorders(...). "This number represents **34.8%** of all records ", The most aren't professional of the voice[9] (p.3222). **Eighty-four** subjects, half with arterial hypertension and half not carrier, responded to the Quality Protocol life in Voice (QLV) noting in conclusion that "(…) Hypertensive and non-hypertensive individuals had scores below what is expected for subjects with healthy voices, without vocal complaints(…)[37] (p.133)". At the National Campaign of Voice in 2012 in São Paulo / SP, through information from 1,800 records of attendance, it was found among the complaints: Hoarseness / changed voice (**15.4%**), dysphagia (9.4%) , cough (4.1%), neck pain (3.6%),

other complaints (5.3%), and **50.4**% of the sample with more than one complaint, which is higher than the 3-8% referred by colleagues, even considering that 36.1% (1358 subjects) reported their use of the voice[10].

A group of 20 young women, not voice professional, without history of previous dysphonia, without vocal training or sports and leisure activities that characterized the continued use of the voice, without gastroesophageal reflux disease, hormonal changes, allergies, respiratory diseases , hearing impairment, neurological or psychiatric, non-smokers, drug users and continuous medications such as antihistamines, antidepressants, antihypertensives, hypoglycemic and anti-inflammatory, passed through perceptual voice assessment carried out by five judges through GRBASI scale.

The results showed the presence of general degree change, roughness and breathiness in mild[13].

5. At this point, colleagues put: "Uncertainty in the references of the article. The correct reference VoiSS[15] is the validation of the article published in 2014 and not the thesis of the abstract published in 2012, as used by the authors. Moreover, the reference of the adjustment culture[18] of VOISS was spelled wrong as 'Cross-cultural adaptation of the Brazilian version of the voice symptoms scale: VoiSS' when in fact the correct title of the publication is 'Cultural equivalence of the Brazilian version of the Voice Symptom Scale - VoiSS'[18]."

There was an error in the spelling of 'Cultural equivalence of the Brazilian version of the Voice Symptom Scale - VoiSS'[18]. And as mentioned earlier**, the questioned survey was conducted based on the references available until the year 2012, closing time and subsequent review and approval of Article 2013 (published only in 2015)** [1] **and, therefore, even without the existence of the later works cited by the group of colleagues, including the study of validation of VOISS[15].**

In the end, colleagues put; "We are deeply concerned at the consequences of the errors and inaccuracies pointed out in that Article. (...) Concerned by the serious results of a survey that is characterized as a screening action for the World Voice Day which, in conclusion, to characterize the subjects as people with voice disorders. "

We reiterate that we described statistically, and ethically, our sample, **we never did inferences for the whole target population, did not claim that the group had vocal disorder** and emphasize two sections discussing our article[1]: "From this perspective, it can be seen that future voice professional **of this work may already have one installed vocal disorder, or develop it with increasing vocal demand** (p.40)"; "The high frequency of occurrence of vocal problems or limitations in this study shows that future voice professionals **may already** be considered **a risk group for development of vocal disorders (p.41).**

The same applies to the conclusion of the article[1] (p.41) that does not match on what colleagues wrote: "**The group of futures voice professionals analyzed** showed high average of vocal symptoms, highlighting the cough or hoarseness and difficulty speaking in noisy places directly related to incorrect vocal uses. **With the increase of professional vocal demand, these individual may be at risk for the development of voice disorders.**"

And yet, these inferences are consistent with the passage cited above from further publication, "A cutoff score of 16 was determined to discriminate Individuals with dysphonia from the vocally healthy subjects confirming the use of this instrument **as a screening measure for Individuals with dysphonia and high-risk populations** "[15] (p.464).

The results found through our research were properly collected and interpreted and correspond to the reality, even if they differ from some work (and consistent with others), showing that the search for truth in science is never exhausted, is a path taken by many professionals and must continue in its inquiries.

Finally, we thank the detailed attention of the group of the colleagues dedicated to criticism of our article on the grounds of improving the Speech and Hearing Science.

We also thank the editor of Magazine CEFAC and referees, qualified colleagues who contributed technically and in style, ethics and scientific during the evaluation process and adequacy of the manuscript and upon approval of the same by mid-year 2013.

Regards,

Dra. Carla Aparecida Cielo
Ms. Carla Franco Hoffmann

REFERENCES

1. Cielo CA, Ribeiro VV, Hoffmann CF. Sintomas vocais de futuros profissionais da voz. Rev CEFAC. 2015;17(1):34-43.

2. Ferreira LP, Santos JG, Lima MFB. Sintoma vocal e sua provável causa: levantamento de dados em uma população. Rev CEFAC. 2009;11(1):110-8.

3. Morais EPG, Azevedo RR, Chiari BM. Correlação entre voz, autoavaliação vocal e qualidade de vida em voz de professoras. Rev CEFAC. 2012;14(5):892-900.

4. Moreti F. Validação da versão brasileira da Voice Symptom Scale – VoiSS. Rev Soc Bras Fonoaudiol. 2012;17(2):238.

5. Zucato B, Behlau MS. Índice de sintomas do refluxo faringo-laríngeo: relação com os principais sintomas de refluxo gastresofágico, nível de uso de voz e triagem vocal. Rev CEFAC. 2012;14(6):1197-203.

6. Costa DB, Lopes LW, Silva EG, Cunha GMS, Almeida LNA, Almeida AAF. Fatores de risco e emocionais na voz de professores com e sem queixas vocais. Rev CEFAC. 2013;15(4):1001-10.

7. Cediel MR, Neira JAR. Analysis of teacher working environment: factors that influence the voice. Audiol Commun Res. 2014;19(4):399-405.

8. Behlau M, Feijó D, Madazio G, Rehder MI, Azevedo R, Ferreira AE. Voz professional: aspectos gerais e atuação fonoaudiológica. In: Behlau M (org.). Voz – O Livro do Especialista. Vol. II. Rio de Janeiro: Revinter, 2005. p.287-372.

9. Menezes LN, Behlau M, Gama ACC, Teixeira LC. Atendimento em voz no Ambulatório de Fonoaudiologia do Hospital das Clínicas da Universidade Federal de Minas Gerais. C&SC. 2011;16(7):3119-29.

10. Korn G. National Voice Campaign – 2012. Braz J Otorhinolaryngol. 2013;79(6):654.

11. Aragão AN, Couto TE, Camargo ZA, Santos MAR, Gama ACC. Análise da qualidade vocal antes e após o uso profissional e social da voz. Audiol Commun Res. 2014;19(3):209-14.

12. Spagnol PE, Cassol M. Estudo comparativo do perfil vocal de atores de teatro profissionais e atores em fase de formação acadêmica. Rev CEFAC. 2015;17(4):1195-201.

13. Pellicani AD, Ricz HMA, Ricz LNA. Função fonatória após o uso prolongado da voz em mulheres brasileiras. CoDAS [online]. 2015; 27(4):392-9.

14. Almeida LNA, Lopes LW, Costa DB, Gonçalves Silva EG, Cunha GMS, Almeida AAF. Características vocais e emocionais de professores e não professores com baixa e alta ansiedade. Audiol Commun Res. 2014;19(2):179-85.

15. Moreti F, Zambon F, Oliveira G, Behlau M. Cross-cultural adaptation, validation, and cutoff values of the Brazilian version of the Voice Symptom Scale-VoiSS. J Voice. 2014;28(4):458-68.

16. Deary IJ, Wilson JA, Carding PN, MacKenzie K. VoiSS: a patient-derived Voice Symptom Scale. J Psychosom Res. 2003;54(5):483-9.

17. Behlau M, Madazio G, Moreti F, Oliveira G, Alves dos Santos LM, Paulinelli BR et al. Eficiência e valores de corte de protocolos de autoavaliação do impacto de problemas de voz. [Apresentado no 21º Congresso Brasileiro e 2º Ibero-Americano de Fonoaudiologia; 2013 Set 22-25; Porto de Galinhas].

18. Moreti F, Zambon F, Oliveira G, Behlau M. Equivalência cultural da versão brasileira da Voice Symptom Scale – VoiSS. J Soc Bras Fonoaudiol. 2011;23(4):398-400.

19. Moreti F, Zambon F, Behlau M. Sintomas vocais e autoavaliação do desvio vocal em diferentes tipos de disfonia. CoDAS 2014;26(4):331-3.

20. Santos AAL, Pereira EC, Marcolino J, Dassiê-Leite AP. Autopercepção e qualidade vocal de estudantes de jornalismo. Rev CEFAC. 2014;16(2):566-72.

21. Fabron EMG, Regaçone SF, Marino VCC, Mastria ML, Motonaga SM, Sebastião LT. Autopercepção, queixas e qualidade vocal entre discentes de um curso de pedagogia. CoDAS 2015;27(3):285-91.

22. Vieira AC, Behlau M. Análise de voz e comunicação oral de professores de curso pré-vestibular. Rev Soc Bras Fonoaudiol. 2009;14(3):346-51.

23. Choi-Cardim K, Behlau M, Zambon F. Sintomas vocais e perfil de professores em um programa de saúde vocal. Rev CEFAC. 2010;12(5):811-9.

24. Borrego MCM, Behlau M. Recursos de ênfase utilizados por indivíduos com e sem treinamento de voz e fala. Rev Soc Bras Fonoaudiol. 2012;17(2):216-24.

25. Ribeiro VV, Santos AB, Bonki E, Prestes T, Dassie-Leite AP. Identificação de problemas vocais enfrentados por cantores de igreja. Rev CEFAC. 2012; 4(1):90-6.

26. Anhaia TC, Klahr PS, Ourique AAB, Gadenz CD, Fernandes RA, Spagnol PE et al. Efeitos de duas

intervenções em professores com queixas vocais. Audiol Commun Res. 2014;19(2):186-93.

27. Ribas TM, Penteado RZ, García-Zapata MTA . Qualidade de vida relacionada à voz: impacto de uma ação fonoaudiológica com professores. Rev CEFAC. 2014;16(2):554-65.

28. Dias TEC, Martins PC, Teixeira LC, Gama ACC. Análise da variação prosódica em diferentes estilos de reportagens telejornalísticas. Audiol Commun Res. 2015;20(3):210-4.

29. Ferracciu CCS, Santos LVA, Teixeira LR, Almeida MS. Estratégias de enfrentamento e perfil de participação e atividades vocais em professoras da rede pública de ensino com e sem distúrbios de voz. Rev CEFAC. 2015;17(4):1184-94.

30. Santos TD, Pedrosa V, Behlau M. Comparação dos atendimentos fonoaudiológicos virtual e presencial em profissionais do telejornalismo. Rev CEFAC. 2015;17(2):385-95.

31. Lima-Silva MFB, Ferreira LP, Oliveira IB, Silva MAA, Ghirardi ACAM. Distúrbio de voz em professores: autorreferência, avaliação perceptiva da voz e das pregas vocais. Rev Soc Bras Fonoaudiol. 2012;17(4):391-7.

32. Machado IM, Bianchini EMG, Villas Boas DC, Giannini SPP, Ferreira LP. Associação entre distúrbio de voz e sintomas de disfunção temporomandibular autorreferidos por professores. Audiol Commun Res. 2014;19(1):75-80.

33. Ferro G, Mayrink L, Azevedo RR, Behlau MS. Perfil Vocal dos Pastores Evangélicos das Igrejas: Batista, Unida, Universal e Presbiteriana. In: Behlau MS. Laringologia e Voz Hoje - Temas do IV Congresso Brasileiro de Laringologia e Voz. Rio de Janeiro: Revinter, 1998. p. 345-7.

34. Guidini RF, Bertoncello F, Zanchetta S, Dragone MLS. Correlações entre ruído ambiental em sala de aula e voz do professor. Rev Soc Bras Fonoaudiol. 2012;17(4):398-404.

35. Fuess VLR, Lorenz MC. Disfonia em professores do ensino municipal: prevalência e fatores de risco. Rev Bras Otorrinolaringol. 2003;69(6):807-12.

36. Ferreira AE. Perfil Vocal dos Operadores de Pregão da BM&F de São Paulo. [monografia especialização]. São Paulo (SP): Centro de Estudos da Voz; 1995.

37. Ribeiro VV, Santos AB, Prestes T, Bonki E, Carnevale L, Leite APD. Autoavaliação vocal e qualidade de vida em voz de indivíduos hipertensos. Rev CEFAC. 2013;15(1):128-34.